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ABSTRACT

Basic research and programs in substance abuse dealing directly with rural and small town populations lag far behind those aimed at urban groups, in both quality and quantity. A study was conducted to identify factors related to substance use by a preadolescent and early adolescent rural and small town population. Data were collected from 496 middle school students in rural Northern Michigan during October, 1981. Student responses concerning drug knowledge, personal drug use, peer drug use, moral issues, and drug health beliefs and attitudes were analyzed. The results of the survey suggest that a multitude of mood-modifying substances are being used by the early adolescents studied. Age was found to be the most important single indicator of drug use, but sex differences were also found to be related to drug use. A steady increase was found for alcohol and cigarette use in this sample with respect to age, while marihuana consumption increased significantly betwen the seventh and eighth grades. Sex was an important variable when related to the use or non-use and to the extent of use of certain drug substances. Girls reported more substance use than boys, possibly due to the earlier maturation of girls. Because drug use behaviors in general are perceived as "adult" behaviors by adolescents, usage increases as peer group expectations of adult behaviors increase. These results suggest that sex and grade level strongly influence an individual's decision to use a particular substance. (NB)

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Early Adolescent Substance Use/Abuse In Rural Northern Michigan

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ABSTRACT

Data were collected from 496 middle school students in rural Northern Michigan during October, 1981. Student responses concerning drug knowledge, personal drug use, peer drug use, moral issues, and drug health beliefs and attitudes were analyzed. The results suggest that sex and grade level strongly influence an individual's decision to use a particular substance. Because drug use behaviors in general are perceived as "adult" behaviors by adolescents, usage increases as peer group expectations of adult behaviors increase. This paper will describe the impact of those (grade and sex) variables on use of nicotine[1], alcohol, and marihuana in this population.

[1]Nicotine usage in this report means smoking cigarettes.

INTRODUCTION

A perusal of the substance abuse literature reveals a large volume of research on educational and clinical intervention, and general philosophies concerning substance use and abuse. Clearly, this topic has been treated extensively by the scientific, philosophical, and theological disciplines. Yet, basic research and programs in substance abuse dealing directly with rural and small town populations lag far behind that aimed at urban groups, in both quality and quantity. Further, those studies which deal specifically with rural substance use and abuse are usually aimed at high school or older populations. Very few have focussed on the incipient stages of drug usage, occurring during preadolescent and early adolescent development. There is overwhelming data on the increasing use of alcohol and marihuana among adolescents. Due to the lack of data on preadolescents, the investigators examined a preadolescent and early adolescent rural and small town population, to attempt to identify those factors which were related to their substance abuse.

Many sociologists have argued that rural and small town society has developed a collection of attitudes and values that are distinctive to it (England, et al., 1979).

Others have suggested that industrialization has, however, made a profound impact on rural value systems. The ramifications of industrialization; the organizational revolution, and the post-industrial society, produced a mass society (Bell, 1966), which purportedly caused a homogenzation of mores (Willits, Bealer, and Crider, 1973).

In the view of the writers the mass society theory has many loopholes. Most notably, it ignores the basic fact that rural lifestyles are often so different when compared to cosmopolitan ways of life that a convergence of attitudes and beliefs is improbable. England, et al. (1979) determined that values are best predicted by variables which indicate the position of the respondent in the class structure of his community, his maturity and the stratification of his community. Their research suggests that individuals living in rural areas, who are employed in the more traditional rural occupations, e.g. farming, logging, and mining, will have a value system which is different from those who maintain a more urban or cosmopolitan lifestyle.

McIntosh, et al. (1976) examined substance use/abuse among rural and urban junior and senior high school students in Texas. These data suggest that sex, racial, and residential factors all influence an individual's

drug and alcohol use. Overall use rates tended to be higher for urban adolescents, although rural youth were found to be earlier users of stimulants, liquor and heroin. Interestingly, they found that black females used heroin, hallucinogens, and cocaine at rates which exceeded other groups examined, although they were 30 percent less likely to use beer than were urban white males.

McIntosh, et al. studies provide valuable information on certain correlates predicting drug use, but it does not appear to apply to drug behavior patterns in the rural Upper Great Lake's region due to ethnic, geographical, educational, socioeconomic, and religious differences. There is a distinct difference in substance use/abuse in both attitudes and behaviors between Mexican-American migrant workers living in Texas and in second generation Finnish-Americans working in the iron mines of Michigan's Upper Peninsula.

Two recent studies are relevant to drug and alcohol use patterns in rural youth in the northern populations. Kirk (1979) analyzed drug usage and various demographic and socioeconomic indices of high school students in rural Vermont, while Napier, et al. (1981) examined drug use among high school students in rural Ohio.

Kirk determined that age was an important indicator of substance use. His data suggested that over 75 percent of the subjects had used beer by the age of 13 and 8.3 percent of them had tried marihuana by that age. By the age of 18, 100 percent of his sample had consumed beer ten times or more. The subjects demonstrated a preference for alcohol and marihuana over other drugs. Peer pressure, curiosity, thrill seeking, and relief from stress were cited most often as reasons for using drugs. No sex differences were found (Kirk, 1979).

Napier, et al. (1981) sampled 492 high school students in an agriculturally based county in Ohio. The results were similar to Kirk's research, especially in respect to alcohol. Alcohol was used by 78.3 percent of the students while 51.3 percent of them had tried marihuana. The mean age for introduction to alcohol was 11.9 years, while for marihuana it was 13.9 years. Females tended to use drugs less often than males.

METHODOLOGY

The survey was conducted in a small town (population approximately 10,000) in Michigan's Upper Peninsula. The closest metropolitan area is some 60 miles away and across a state boundary. Traditional rural employment, e.g.

logging, farming, and mining are the usual occupations in the area, although light industry is also found, chiefly paper mills.

The subjects were 6th, 7th, and 8th grade students at the local middle school. A total of 496 students were sampled representing 95.6 percent of the total student population at that school. The breakdown of subjects by grade level and sex appears as Table 1. While it cannot be argued that these students are representative of rural America's youth, it is quite possible that they are representative of this area and possibly of the rural Northern Midwest.

insert Table 1 about here

A letter was sent to all students' parents before the questionnaire was administered explaining the purpose of the study. No negative responses from the parents to the proposed study were received. The survey instrument was administered in the classrooms. No attempt was made to test those students who were absent on the test day.

Total anonymity was emphasized. The students were not permitted to put their names on the questionnaire or answer sheets, which were scored by an optical scanning machine.

The investigators generated 55 questions dealing with drug knowledge, drug usage, peer drug usage, moral issues, health behavior attitudes, and demographic variables.

The personal and peer drug questions, moral issue items, and health belief inventories utilized a five point Likert type scale, while drug knowledge questions used a multiple choice and true-false format.

RESULTS

The results of the survey suggest that a multitude of mood modifying substances are now being used by the early adolescent population in the area studied. Age was the most important single indicator of drug use, but sex differences were also discovered to be related.

Age was clearly related to the frequency of substance use in this sample. All types of substances showed a substantial increase in reported use at each higher grade level. Table 2 presents the frequency of use of various substances in this population by grade.

insert Table 2 about here

Sex was also determined to be a factor related to substance use. Interestingly, these data suggest a higher

frequency of females are using certain drug substances than males in the same grade level or age group. Table 3 shows differences between male and female drug use patterns.

insert Table 3 about here

DISCUSSION

Grade level was an important indicator of drug usage in this sample. This is a consistent finding in the literature (e.g., Kirk, 1979; McIntosh, et al., 1979; Napier, et al., 1981; and Nyberg, 1979). A steady increase was found for alcohol and nicotine use in the sample with respect to age, while marihuana consumption increased significantly in the eighth over the seventh grade.

Sex was an important variable when related to the use or non-use and to the extent of use of certain drug substances. Contrary to most research (Johnston, et al., 1977; Napier, et al., 1981) where males generally are reported to use more drug substances than females, the opposite was true in this population. Eighth grade females drank more alcohol than their male counterparts in the "occasionally drink" category, while they also felt that they ought to try to stop their drinking behaviors more often than did the male eighth grade students. The

differences in drinking behaviors when compared by sex are not as great in the 6th and 7th grades, although females report greater usage in some categories than males to a measurable degree.

Interestingly, there were no significant differences between males and females in responses to the marihuana use questions in the eighth grade, however, in the earlier grades male usage was always equal to or greater than that of females. Cigarette smoking in the 6th grade was higher for females in all categories except "trying to quit," but the numbers here are too small to make these data fully reliable. The percentage of sixth graders who report that they smoke appears to be below the national averages. By the 8th grade, males responded more frequently that they smoke "occasionally," but there were more females identified as regular smokers, and substantially more females who wanted to quit.

It is reasonable to argue that the higher percentages of females in younger grade levels, who report drinking, occurs because they are dating older boys, probably those in high school. The differences in maturity between eighth grade boys and girls is often quite evident, this might be an additional variable contributing to higher levels of drinking behavior.

Smoking behavior differences may also be due to similar factors, that is, the reason more females choose to smoke is that smoking is considered an "adult behavior" by young adolescents. Since females generally mature earlier than males, it is reasonable to suppose that they would choose to engage in what they perceive as adult behaviors at earlier ages than would their male counterparts.

The differences in male/female marihuana usage in the 6th and 7th grades may be explained by the differnce in each sex's perceptions of the consequences of breaking the law about smoking marihuana. Boys may be less concerned about breaking the law than are girls thus, more willing to commit a so-called "victimless" crime. The fact that female usage equals male usage by the 8th grade suggests that their perceptions of legal consequences are changing by that time, or perhaps, that peer pressure on girls, has increased substantially, causing them to use the substance with a higher frequency.

The increases in usage by age seems to be a function of both increasing maturity, and the individual's own perception of how an adult should behave. As suggested earlier, a substantial portion of drug use in early adolescence may be due to the adolescent's perception of

drug and alcohol usage as an "adult behavior." Drug use alone is not the sole means of acquiring a self-image of engaging in adult behaviors. Early adolescent premarital sexual activity is often viewed as a way adolescents express their need to engage in adult behaviors, while attempting to establish "adult type" interactions with members of their peer group.

To conclude, the results of this study suggest that age and sex are important variables involved in a person's decision to use drugs, and are determinants of the quantities of drugs used in a particular setting. More research must be done in the area of early adolescent substance use to further validate the conclusion that adolescent females use more drugs than do males of the same age under certain circumstances. More importantly, it must be determined whether or not this finding is specific to early adolescent behavior in the Northern Great Lakes region, or is it applicable in other geographic areas as well?

TABLE 1

SEX AND GRADE LEVEL DISTRIBUTION

OF THE SAMPLE

GRADE	MALE	FEMALE	TOTAL
6	88	82	170
7	80	79	159
8	92	75	167
TOTAL	260	236	496

TABLE 2

FREQUENCY OF USE OF CERTAIN SUBSTANCES

EXPRESSED IN PERCENTAGES

GRADE	ALCOHOL	MARIHUANA	NICOTINE
6	15.0	5.5	8.0
7	25.0	5.5	11.0
8	49.0	13.0	22.0

TABLE 3

FREQUENCY OF USE

EXPRESSED IN PERCENTAGES

SUBSTANCE	GRADE	SEX	NEVER	MAYBE	OCCASIONALLY	REGULARLY	TRYING TO QUIT
Alcohol	6	M	65	19	10	6	0
		F	76	10	11	2	1
Marihuana	6	M	91	3	1	3	1
		F	91	4	2	0	2
Nicotine	6	M	80	14	2	2	2
		F	82	9	5	4	1
Alcohol	7	M	55	20	21	1	2
		F	49	25	23	3	0
Marihuana	7	M	88	2	5	4	1
		F	97	1	1	0	0
Nicotine	7	M	76	14	4	4	2
		F	75	13	11	0	1
Alcohol	8	M	29	27	37	7	0
		F	29	16	48	1	5
Marihuana	8	M	75	12	11	1	1
		F	79	8	12	1	0
Nicotine	8	M	60	15	17	7	1
		F	67	15	3	9	7

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